

ABSTRACT

The present invention provides low-residual-solvent containing excipients with residual solvent less than < 3000 ppm. Most of the excipients are required to first be modified to become more water absorbing such as by attaching a water absorbing radical, e.g., $(-\text{CH}_2\text{COONa})$ to the carbinol groups $(-\text{CH}_2\text{OH})$ of the excipients to form a $-\text{CH}_2\text{-O-CH}_2\text{COONa}$ linkage. The linkage of the water-absorbing groups to the excipients improves the water absorbing property of the excipients, which facilitates the replacing residual solvent with water. The residual solvent can be extracted from the excipient by way of mixing with a solvent/water solution containing (1) about 75-95% (v/v) isopropanol and about 5-25% water (v/v); (2) about 65-95% acetone and about 5-35% water; and (3) about 60-85% methanol and about 15-40% water.